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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,517	03/08/2002	Takafumi Noguchi	Q66506	3791

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EXAMINER

LAM, HUNG H

ART UNIT PAPER NUMBER

2615

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/092,517	Applicant(s) NOGUCHI, TAKAFUMI	
	Examiner Hung H. Lam	Art Unit 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendments, filed on 07/12/2005, have been entered and made of record. Claims 1-13 are pending.

In view of Applicant's amendment to the title, objection to the title is hereby withdrawn.

Response to Arguments

2. Applicant's arguments with respect to amended claims 1-6, newly added claims 7-9 and 11-13 have been fully considered but they are not persuasive. The newly added claim 10 is rejected in view of Kimura (US-5,940,126).

3. In response to applicant's argument that Konishi references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "Konishi do not overcome the problems of conventional devices such as blurring and noise") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

The Applicants asserted that in Konishi controlling the variable gains for color separation is independent of light intensity (brightness) but instead of dependent upon white balance. The Examiner respectfully disagrees. Konishi teaches that the gain values of the amplifier of the color separation and gain adjustment unit 50 are separately adjusted as a function of the color temperature data (Col. 8, Ln. 64 – Col. 9, Ln. 5). Konishi further teaches that the gain of the color separation and gain adjustment unit 50 are adjusted on the basis of the color temperature data obtained by color temperature sensor 78 and the incident light volume or quantity from the scene obtained from photosensitive device 36 (Col. 11, Ln. 28-42). Therefore, Inai as modified by Konishi teaches that the determination when to insert / remove the IR filter and adjust the gains for color separation are based on the information sending to the main control (Fig. 3; 58) by the photosensitive sensors (see Inai: Fig. 3; photo sensor 13, IR filter driving circuit 15 and 16; Konishi: Fig. 3; color temperature sensor 78, sensor 36, main control 58 and color separation gain adjustment 50).

The Applicant argue that Inai and Konishi do not teach or suggest that increasing or decreasing the intensity of color separation process is based on the sufficiency or insufficiency in sensitivity of the image capturing device. The Examiner respectfully disagrees. Inai teaches that the infrared filter is inserted to delete infrared component on the basis of a predetermined high brightness level which the sensitivity spectrum curve b, c and d of high sensitivity image sensors approaches the cutoff maximum sensitivity $\mu A/\mu W$ (Inai: Col. 2, Ln. 50- Col. 3, Ln. 11). Konishi teaches that the gain of the color separation and gain adjustment unit 50 are adjusted on the basis of the color temperature data obtained by color temperature sensor 78 and the incident light volume or quantity from the scene obtained from photosensitive device 36 (Konishi: Col. 11, Ln.

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28-42). It is noticed that by adjusting the gain, the intensity of the color separation process must be increased or decreased. Also on the basis of information sent by the color temperature sensor (78) and sensor (36), the main control (Konishi: Fig. 1; 58) must inherently determine the sufficiency / insufficiency of the sensitivity of the image capturing device in order to adjusting the gain of the color separation unit (50) accordingly.

In view of the above, the Examiner believes that the broadest interpretation of the present claimed invention does in fact read on the cited reference for at least the reasons discussed above and as stated in the detail Office Action as follows. This Office action is now made final.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-9 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inai et al. (US-4,437,111) in view of Konishi (US-4,774,564).

Regarding **claim 1**, Inai et al. disclose an image capturing method in which an image of a subject is captured by an image capturing device using image capturing optics (Fig. 3, optical lens 1-4; col. 2, lines 22-28) and an image capturing signal from said image capturing device (5) is subjected to specified processing schemes including a color separating process (Fig. 3, Y color separator process 7-11; col. 2, lines 39-51), thereby producing an image signal, said method comprising the steps of:

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determining whether sensitivity of said image capturing device is insufficient or not during image capturing (Fig. 3, brightness detector 13, brightness determining circuit 14; col. 2, lines 51-67);

when the sensitivity of said image capturing device is insufficient, relatively increasing at least one of an overlapping region of spectral sensitivity of said image capturing device (col. 4, lines 50-61; when brightness is below the set level, infrared filter is removed to increase the sensitivity of the pickup-tube);

when the sensitivity of said image capturing device is sufficient, relatively decreasing at least one of the overlapping region of the spectral sensitivity of said image capturing device (col. 4, lines 38-49; when brightness is above the set level, infrared filter is inserted to decrease the sensitivity of the pickup-tube).

However, Inai et al. fail to disclose that when the brightness is bellow or above the set level, the corresponding intensity of color separating process is increased or decreased.

In the same field of endeavor, Konishi teaches an electronic still camera wherein the intensity of the RGB/color separating process is set to a predetermined level if it is possible (Figs. 6 and 7) or disengaged and continued in manual mode (col. 13, lines 47-53). Konishi further teaches that the gains of the G and B signals of the color separating process are increased when color temperature detects low light; otherwise, the system is disengaged to complete the photographing in manual mode (col. 13, lines 30-55). In addition, Konishi teaches that the gain of the color separation and gain adjustment unit 50 are adjusted on the basic of the color temperature data obtained by color temperature sensor 78 and the incident light volume or quantity from the scene obtained from photosensitive device 36 (Konishi: Col. 11, Ln. 28-42; it

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is noticed that by adjusting the gain, the intensity of the color separation unit must be increased or decreased. Also on the basis of information sent by the color temperature sensor 78 and sensor 36, the main control 58 must determine the sufficiency / insufficiency of the sensitivity of the image capturing device for adjusting the gain of the color separation unit 50 accordingly). In light of the teaching from Konishi, it would have been obvious to one of ordinary skill in the art at the time the invention was to increase or decrease the gain (intensity) of the color separating process taught by Konishi into the teaching of Inai in order to provide an improved camera capable of controlling the gain-variable of the color separation in accordance to the data obtained by the color temperature sensor/ photo sensitive device (Konishi, col. 3, lines 47-53).

Regarding **claim 2**, Inai as modified by Konishi, discloses the image capturing method wherein the overlapping region of the spectral sensitivity of said image capturing device is an infrared region (Inai, Fig. 3, Infrared Filter 3; col. 3, lines 1-12; the spectral sensitivity of the image capturing device is adjusted by inserting or removing the infrared filter).

Regarding **claim 3**, Inai as modified by Konishi fails to explicitly disclose that the color separating process is an under color removal scheme. However, the examiner takes an Official Notice that it is well known and expected in the art to include an under color removal in the color separating process. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was to have an under color removal scheme as a process of the color separating process taught by Inai and Konishi.

Regarding **claim 4**, all limitations are contained in claim 1. See the rejection of claim 1 above.

Regarding **claim 5**, all limitations are contained in claim 2. See the rejection of claim 2 above.

Regarding **claim 6**, all limitations are contained in claim 3. See the rejection of claim 3 above.

Regarding **claim 7** (new), Inai in view of Konishi discloses the image capturing apparatus, wherein after the image capturing device (Konishi: Fig. 1; CCD 22) captures the image of a subject the image is converted to exposure data and the exposure data is subjected to color separation (Konishi: see Fig. 1; CCD 22 inherently captures an image and converts the exposure data to RGB signal which is then sent and subjected to the color separation unit 50).

Regarding **claims 8 and 9** (new), all limitations are contained in claim 1. See the rejection of claim 1 above.

Regarding **claim 11** (new), Inai in view of Konishi discloses the image capturing apparatus wherein said image capturing apparatus (Konishi: see the camera in Fig. 1) comprises a device (Konishi: Fig. 3; AE control 66 and shutter drive 40) for maintaining a consistent aperture (Konishi: Fig. 3; Col. 6, Ln. 66 - Col. 7, Ln. 7-18; AE control 66 inherently controls a consistent aperture in accordance with a light intensity measured at the photosensitive element 36).

Regarding **claim 12** (new), Inai in view of Konishi discloses the image capturing apparatus, wherein said image capturing apparatus comprises a device (Konishi: Fig. 3; AE control 66 and diaphragm drive 28) for maintaining a consistent shutter speed (Konishi: Fig. 3; Col. 7, Ln. 7-18; AE control 66 inherently controls a consistent shutter / diaphragm speed in accordance with a light intensity measured at the photosensitive element 36).

Regarding **claim 13** (new), Inai in view of Konishi discloses the image capturing apparatus wherein said sensitivity is based on a spectral response of said image capturing device (see Inai: Col. 1, Ln. 10-22 wherein the sensitivity spectrum of recent high sensitivity image pickup devices have considerable sensitivities in the infrared range of about 700-830 nm as shown in Fig. 1; see Col. 2, Ln. 50- Col. 3, Ln. 11 wherein the infrared filter is inserted to delete infrared component on the basis of a predetermined high brightness level which the sensitivity spectrum of curve b, c and d in Fig. 1 approaches the cutoff maximum sensitivity $\mu A/\mu W$).

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inai in view of Konishi and further in view of Kimura (US-5,940,126).

Regarding **claim 10** (new), Inai in view of Konishi fails to explicitly disclose the image capturing apparatus, wherein said device for producing the image signal by performing specified processing schemes does not generate noise. However, the limitations are well known in the art as taught by Kimura.

In the same field of endeavor, Kimura teaches a camera for capturing image AB (Fig. 2A) and laterally inverting image B from left to right (Fig. 2B) (Col. 2, Ln. 64- Col. 3, Ln. 2).

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Kimura further teaches that the photoelectrically converted signal of the CCD (120) is outputted to an amplifier and undergoes a noise reduction process and inputted to a color separating and signal processing circuit (123) so as to be decoded as a standard video signal (Col. 3, Ln. 3-8). In light of the teaching from Kimura, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Inai and Konishi by having a noise reduction circuit between CCD 120 and the color separating unit/ signal processing circuit 123 as claimed by Kimura in order to provide an improved standard video signal with noise removal.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung H. Lam whose telephone number is 571-272-7367. The examiner can normally be reached on Monday - Friday 8AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on 571-272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HL

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